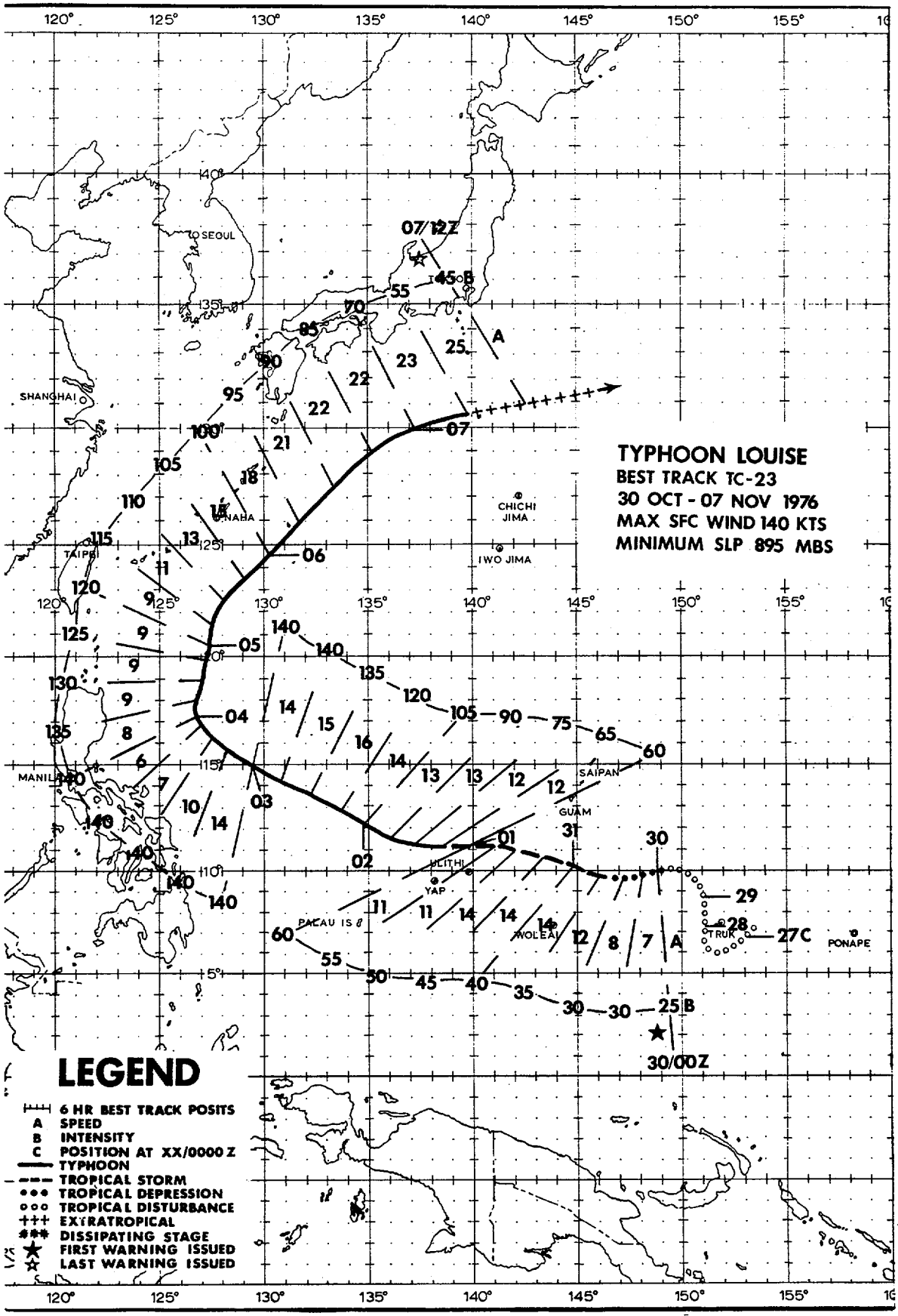
TYPHOON LOUISE
BEST TRACK TC-23
30 OCT - 07 NOV 1976
MAX SFC WIND 140 KTS
MINIMUM SLP 895 MBS
LEGEND
6 HR BEST TRACK POSITS
A SPEED
B INTENSITY
C POSITION AT XX/0000 Z
TYPHOON
TROPICAL STORM
TROPICAL DEPRESSION
TROPICAL DISTURBANCE
EXTRATROPICAL
DISSIPATING STAGE
FIRST WARNING ISSUED
LAST WARNING ISSUED
SEOUL
SHANGHAI
NAHA
TAIPEI
CHICHI JIMA
IWO JIMA
SAIPAN
GUAM
MANILA
YAP
TRUK
PONAPE
PALAU IS
07/12Z
30/00Z

Louise, the 14th and final typhoon of season, was also the most intense of 1976. The disturbance that was to become Louise was first detected by satellite data on the morning of 27 October about 75 nm east of Truk. During the next 3 days the disturbance showed little intensification as it meandered through the northern Truk District. Late on the 29th the system began moving toward the west, and by the morning of the 30th satellite data indicated that it was intensifying (Fig. 4-44). The first warning was issued at 0000Z on the 30th as TD 23.

FIGURE 4-44. *Louise a few hours prior to becoming TD 23 150 nm northwest of Truk and 400 nm southeast of Guam, 29 October 1976, 2107Z. (DMSP imagery)*

Reconnaissance aircraft at 1515Z on the 30th indicated that the central pressure had fallen to 996 mb, and at 1800Z the depression was upgraded to Tropical Storm Louise. During the next 36 hours Louise moved west-northwestward at 14 kt, then westward at 11 kt as its winds increased at a rate of 5 kt every 6 hours. At 0311Z on the 1st of November aircraft observed 70 kt flight level winds and found that the central pressure of the storm had fallen to 976 mb. At 0600Z Louise was upgraded to a typhoon while 100 nm northwest of Ulithi Atoll.

Beginning on the 1st, a series of rapidly moving, mid-tropospheric short-wave troughs created a weakness in the subtropical ridge between 125E and 130E. On the afternoon of the 1st Louise began to respond to this weakness by acquiring a northwestward track. Almost simultaneoulsy, the typhoon commenced more rapid deepening, attaining 105 kt winds by the morning of the 2nd. From 0311Z on the 1st to 0310Z on the 2nd reconnaissance aircraft indicated a fall in the central pressure of 43 mb, a rate of 1.8 mb per hour. This deepening was in response to favorable upper-level outflow channels to the northeast and south (Fig. 4-45). Further deepening to 905 mb had occurred by 1435Z on the 2nd, a fall of 28 mb in 11 hours.

During the early morning of the 3rd Super Typhoon Louise attained its maximum intensity of 140 kt which it maintained for nearly 36 hours (Fig. 4-46). The lowest recorded pressure was 895 mb observed by aircraft at 0830Z on the 3rd (Fig. 4-47).

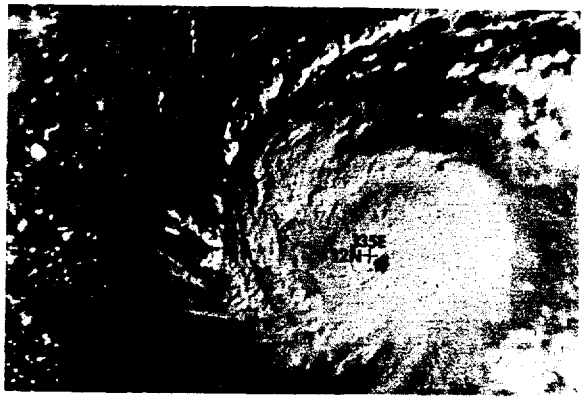

FIGURE 4-45. *Typhoon Louise at 100 kt intensity 240 nm west-northwest of Yap, 1 November 1976, 2212Z. (DMSP imagery)*

From the morning of 2nd until the afternoon of the 3rd Louise maintained its northwestward track moving at 14 to 16 kt. Then, on the afternoon of the 3rd, the storm slowed to 6 kt as it recurved around the western periphery of the mid-tropospheric subtropical ridge. By 0000Z on the 4th, Louise began to accelerate to 9 kt, moving in a north-northeastward direction and slowly weakening. Louise continued this movement for more than 30 hours as it traversed the broad axis of the subtropical ridge. Late on the afternoon of the 5th the typhoon, which had weakened to 115 kt, began to accelerate on a northeast track.

From 0000Z on the 4th until 1800Z on the 6th Louise weakened at the unusually slow rate of 5 kt per 6 hours. This slow weakening resulted from two conditions: (1) A broad surface high pressure cell centered over northern Honshu prevented significant

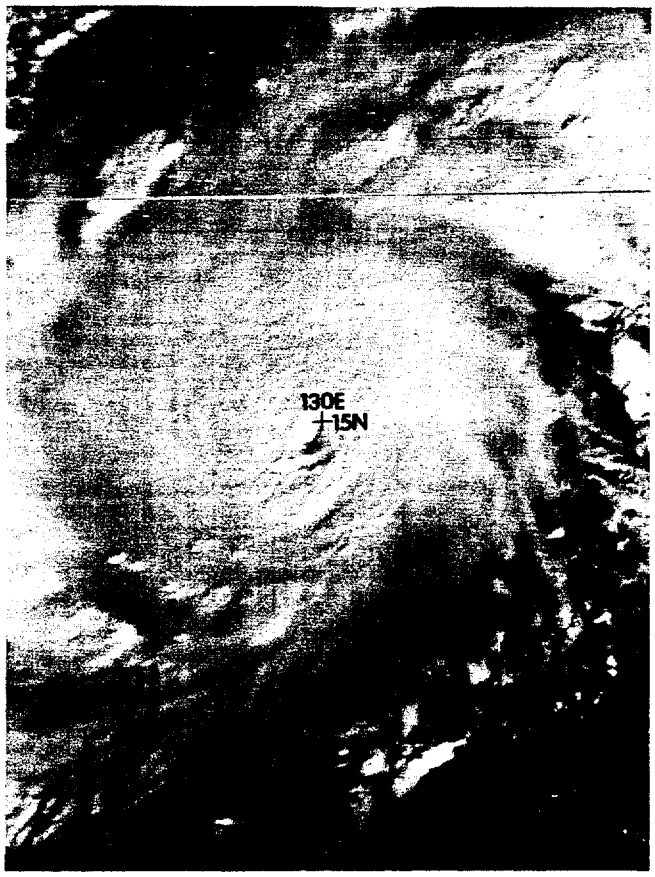

FIGURE 4-46. *Super Typhoon Louise at 140 kt peak intensity 500 nm east of Manila, 2 November 1976, 2318Z. (DMSP imagery)*

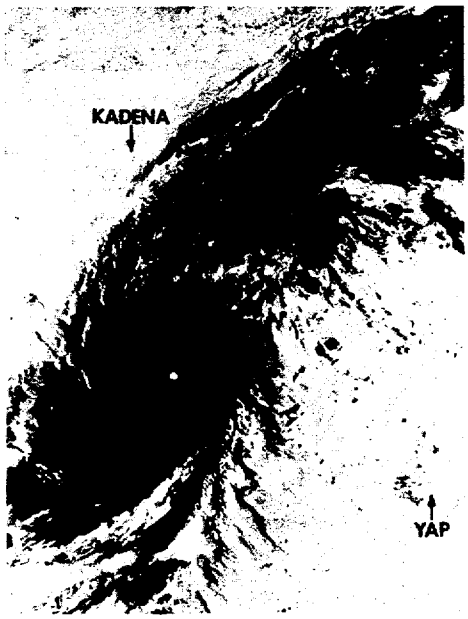

FIGURE 4-47. *Infrared photograph of Typhoon Louise at peak intensity 380 nm east-northeast of Manila and 615 nm south of Kadena AB, Okinawa, 3 November 1976, 1045Z. (DMSP imagery)*

equatorward penetration of frontal systems; and (2) The extremely strong jet stream (exceeding 200 kt) over eastern Japan provided an excellent outflow channel. At 0300Z on the 6th, Minamidaito Jima (47945), 40 nm north-northeast of Louise, reported east-northeasterly winds of 40 kt and a sea level pressure of 984.8 mb. Two hours later the storm passed 15 nm southeast of the island with maximum winds estimated near 95 kt.

By the 7th, cooler sea surface temperatures and very strong vertical shear were taking their toll as Louise moved north of 30N. Reconnaissance aircraft at 0359Z on the 7th indicated that Louise was rapidly losing its tropical character and was becoming extratropical. The Airborne Reconnaissance Weather Officer also observed that the lower half of the wall cloud was "rotating rapidly", a phenomenon sometimes reported when a storm is becoming extratropical.

At 0600Z on the 7th, moving east-northeast at 25 kt, Louise became extratropical. As an extratropical system the remains of Louise moved northward to combine with another surface low. The resulting system had deepened to 947 mb by the 10th and became one of the most severe extratropical storms of the year, ultimately producing surf in excess of 30 ft in the Hawaiian Islands.